REMARKS

The Office has rejected claims 1-7 under 35 U.S.C. § 102(b) as being anticipated by Ross (US 5,666,525). Claims 22-30 are rejected under 35 U.S.C. § 102(b) as being anticipated by Pederson (5,864,843). Claims 8-21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ross (5,666,525) in view of Pederson (5,864,843). This is the second Office action in this application and the action was made final.

Ross 102(b) Rejection Claims 1 -7

Applicant respectfully disagrees with the Office's rejection of Applicant's argument for the following reasons. It is well established law that "a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir 1987). Applicant has argued that Ross does not show or suggest "distributing, in response to the join request, rows ... from the first storage module to the second storage module...." The Office has rebutted this argument by citing a passage in Ross (column 7, lines 39-60) that the Office alleges does show or suggest the above elements (see Office Action Summary page 2 last paragraph through to the end of the first paragraph on page 3). The cited passage teaches a simple join operation between two tables based on "course numbers," but no where in the cited passage or in the remainder of Ross is there a teaching that rows are distributed at any time or in any manner. The "distributing" element is simply not taught or suggested in Ross. Additionally, Ross does not teach a first storage module and a second storage module as required by Applicant. Since these elements are not expressly or inherently shown or suggested in Ross, Ross can not anticipate Applicant's claims. Applicant therefore asks that the Office withdraw this rejection and allow these claims.

Pederson 102(b) Rejection - Claims 22 - 30

Applicant again respectfully disagrees with the Office's rejection of Applicant's argument for the following reasons. The Office alleges on page 4 of the Office Action Summary that "Pederson discloses [a] 'first access module adapted to further distribute

row identifiers of distributed rows...." The Office states that the "'hash partitioning keys' are the columns and row identifiers." Applicant agrees that Pederson does teach that the "hash partitioning keys" comprise the join columns from the base table, but no where does Pederson teach that the "hash partitioning keys" include "row identifiers." There is simply nothing in Pederson that would cause a person of ordinary skill in the art to conclude that the "hash partitioning keys" comprise the "row identifiers" of Applicant's claims. To properly reject a claim under section 102, the prior art must expressly or inherently describe the elements of Applicant's claim. Pederson does not expressly describe the "row identifiers" of Applicant's claim and there is nothing inherent or essential in the "hash partitioning keys" that would require the "row identifiers" of Applicant's claim. Therefore, Pederson fails to expressly or inherently describe the elements of Applicant's claims. Applicant asks that the Office withdraw this rejection and allow these claims.

103(a) Rejection - Claims 8 -21

The Office states "the combination of [the] Ross and Pederson Patents is proper since this combining produces a system that optimizes SQL queries in a relational database management system." (page 4, paragraph 2) The Office further states "the advantage of this optimization technique is that it can be applied to very large database to produce [a] reasonable amount of success." (page 4, paragraph 2) Applicant respectfully disagrees. There is nothing in Ross or Pederson that would lead a person of ordinary skill in the art to conclude that a combination of these references would have a reasonable expectation of success. The two references teach entirely different, and in some areas opposing, techniques of joining tables. Simply stating that combining the references "produces a system that optimizes SQL queries" or that the optimization technique "can be applied to very large database" in no way addresses how a person of ordinary skill would have a reasonable expectation of success in making such a combination. Instead, the Office has stated a "hoped for expectation of success" but has not addressed how a person of ordinary skill would reasonably expect success from two dissimilar and opposing techniques.

The court has found that "if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). A principle of Ross is that "the technique used for joining tables ... requires reading each input table only once ..." (col. 3, lines 8-10) and thus minimizes the I/O operations involved in joining the tables. This is the inventive step of Ross and is key to its teaching. Pederson on the other hand teaches a table join technique that requires multiple reading of the input tables if it is to be successful (col. 6, lines 22-61). Combining these references would therefore violate the basic principles of each reference and therefore make their combination improper.

CONCLUSION

None of the references cited, whether taken alone or in combination, shows or suggests all of the features of Applicant's claims. Additionally, the combination of Ross and Pederson is improper. All of the claims are therefore allowable over these references.

Applicant asks the Examiner to reconsider this application and to allow all of the claims. Please apply any charges that might be due, excepting the issue fee but including fees for extensions of time, to deposit account 50-1673.

Respectfully,

Harden E. Stevens III

Harden E. Stevens, III
Reg. No. 55,649

NCR Corporation
1700 South Patterson Blvd.
Dayton, Ohio 45479-0001

Tel. No. (803) 939-6505
Fax No. (803) 939-5099